Transform Your Supply Chain with Collaboration

Enabling Integration between Suppliers and Customers Using Technology

J. Paul Dittmann, Ph.D.
Executive Director Global Supply Chain Institute
The University of Tennessee
Sponsored by DiCentral

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EXECUTIVE SUMMARY

Trading partner collaboration in the supply chain environment is essential in today's hyper-competitive and technology-driven business world. Today's leading organizations have employed supply chain strategies around collaboration technology to sustain fill rates, lower inventories, lower cost, and increase economic profit.

Internal efficiency, trading partner compliance, and the need to drive down costs are the motivations in this new business reality. However, the opportunities for streamlining processes are richer than the resources to achieve it, as increased pressures on internal IT departments to meet core business objectives can lead to potential gaps in knowledge and technology.

In view of the increased commitment across industry to improve supply chain efficiency and the maturation of cloud-based information systems, The University of Tennessee's Global Supply Chain Institute, in collaboration with DiCentral Corporation, partnered on a research study to discover best practices in supply chain collaboration and the demonstrable business value associated with B2B integration managed services.

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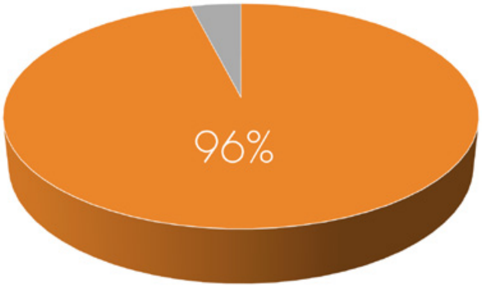
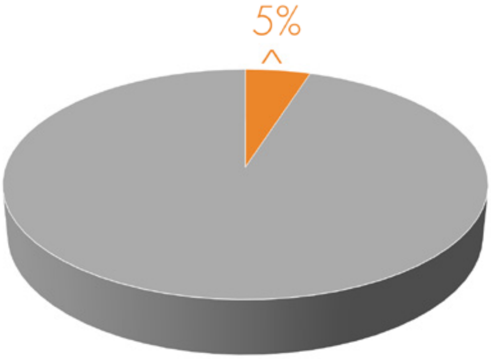




The average organization spends more than 5% of their IT budget on electronic connections.

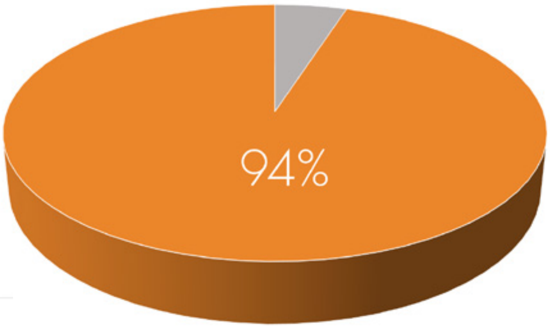
EXECUTIVE SUMMARY

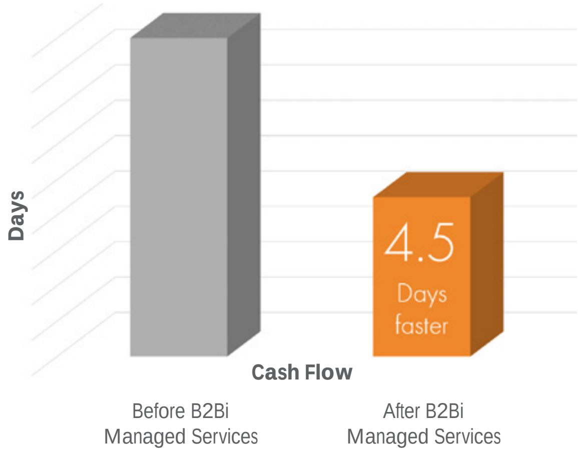
The study suggests that innovations such as cloud-based computing, ubiquitous mobile devices, and third-party outsourcing for key services have cut costs, increased business flow efficiency, and helped to make the "global" become "local". Further findings indicate that great improvements in both external communication and internal processes can be realized using the techniques to be described.

According to our survey of over 200 professionals from a wide range of industries:

- Suppliers captured a 25% savings by processing orders electronically and 20% savings by processing invoices electronically rather than non-electronically;
- Suppliers processed invoices 4.5 days faster when using B2Bi Managed Services;
- 94% saw significant improvement in their electronic connectivity capabilities when using B2Bi Managed Services;
- 68% reported that their clients said they were easier to do business after implementing B2Bi Managed Services; and,
- 69% said they could respond more quickly to changes in their clients' environments after implementing B2Bi Managed Services.

94% of those surveyed saw significant improvement in their electronic connectivity capabilities when using B2Bi Managed Services.





Suppliers process invoices 4.5 days faster when using B2Bi Managed Services.

INTRODUCTION

What Does Collaboration Mean?

Collaboration consists of a supplier and a customer working together to achieve mutual improvement. That's easy to say, but very difficult to do. In this study, we'll present several examples of successful collaborations that achieved impressive results. We'll especially focus on how advances in technology can enable breakthrough improvements. For the organizations that achieve competitive advantage by collaborating successfully, we see three stages in their evolving relationships:

Stage One: This stage starts with recognition by both parties of the potential power of collaboration, which requires some supply chain sophistication on both sides. Senior executive support and encouragement also is a common factor in early collaborative relationships. And finally, success in getting started depends on the acknowledgement by both parties that it will involve a lot of time and effort.

Stage Two: The companies in this stage now have a supply chain strategy with collaboration being one of the core elements of that strategy. The partners have worked together enough to develop the trust to share data and strategies openly with their partner. They have invested in technology to facilitate the process. And they have a mutual plan to sustain the effort as people inevitably change jobs over time.

Stage Three: In this stage, the parties mutually develop key performance indicators, and jointly measure success as a common group. They are now connected with technology. In the final level of maturity, they agree to share the savings equitably from their joint improvement efforts. In our experience, companies that reach stage three drive better fill rates, lower inventories, and lower cost, higher economic profit, and increased shareholder value.

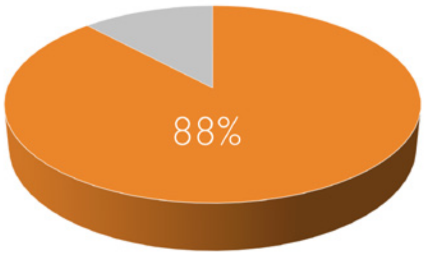
Can Technology Enable Supplier Collaboration?

Nothing replaces face-to-face communication in establishing and maintaining a collaborative relationship. However, on-going transactions between two partners must be hassle-free to avoid creating roadblocks; and this should be facilitated with technology. For example, IBM implemented a process with its suppliers that eliminated the purchase order. The suppliers simply committed

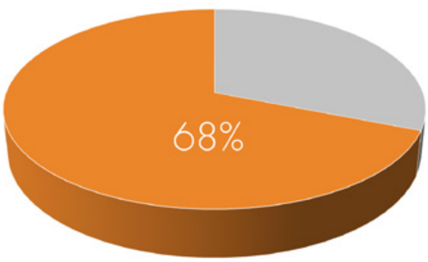
Industries represented in the study:

- Retail
- Consumer Product Goods
- Financial Services
- Logistics
- Healthcare
- Utilities

INTRODUCTION



88% of those surveyed said that their cost stayed the same or went down when using B2Bi Managed Services.



68% indicated that with B2Bi Managed Services, their customers reported that they are easier to do business with.

to maintain a certain level of inventory on site at IBM. Linkages occur between suppliers and customers through computer-to-computer electronic data interchange (EDI) links and web portals. These technologies are commonly available, and can result in a dramatic reduction in the cost of supplier interaction and in removing a potential irritant from developing the true collaborative relationship.

With a web browser and/or EDI linkages, suppliers and their customers can interface closely with each other. They can use web-based tools or EDI to update their product catalog, track payment status, receive and track orders, download forecasts, inventory, and supply chain plans. Suppliers can enter ASNs (advance ship notices) online. They can leverage data from within the ASN to create and print barcode shipping labels. The system can track receipts, and automatically generate a scorecard to be used by both the supplier and the customer to ensure that automated processes are optimized. Email alerts can be configured and automatically sent when a condition falls outside of the norm.

Companies became very serious about using technology to jump-start collaborative efforts about fifteen years ago. In 2003 Sears and Michelin received recognition from V.I.C.S. (Voluntary Interindustry Commerce Solutions) as one of the best collaborative implementations. The companies used a web portal to share information about Michelin's supply, Sears' demand, and inventory status. Sears also communicated planned order requirements and planned inventory levels to Michelin. Later, Sears added other tire suppliers so they could manage the overall tire supply for Sears' stores. Both Sears and its tire suppliers viewed the information in near real time, collapsing the time required for decision cycles, and allowing Sears to avoid out-of-stocks on tires while reducing inventory by 25 percent.

According to our survey of over 200 professionals from a wide range of industries:

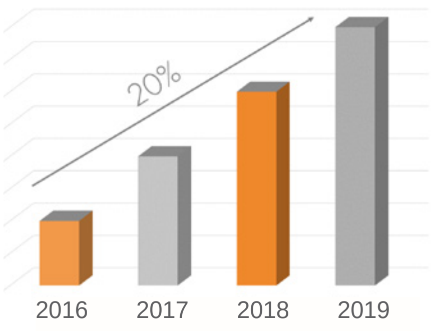
- 96% of those surveyed are linked electronically in some way with at least one of their trading partners;
- The average organization spends over 5% of its IT budget on electronic connections. This spending is expected to grow 7% annually;

- Electronic connections are expected to increase over 20% over the next three years, with a 25% increase in the volume of such traffic; and,
- 69% of those surveyed say that they intend to increase the number of customers they trade with electronically.

Does Collaboration Pay Off?

You bet it does. Success stories are multiplying and prove that win-win collaboration will cause costs to decline; cash flow to increase; and revenue to grow. All of that generates a stronger financial position for the organization enhancing shareholder value (or owner's equity).

One office supplies retailer decided to become the "best customer" to their suppliers through an in-depth collaboration process. They invested in time and technology to make it happen. Did it produce bottom line results? The metrics tell a very good story. For one of their major suppliers, in-stock fill rates rose significantly to nearly 99 percent from below 95 percent. Lead times reduced by nearly 60 percent. Forecast accuracy improved by over 30 percent, and inventory turnover increased by 9 percent. Most importantly, the two organizations focused much more on driving growth, rather than reactive firefighting. Both partners realize that even with this successful track record, sustaining the forward momentum will be hard work. They look at collaboration as a journey, not a destination. They understand that sustaining the momentum will be as difficult as initiating it. That's why having a strong technology infrastructure is so important.



Expected increase of electronic connections over the next three years.

The senior executives in both organizations agreed on six valuable requirements that resulted in this successful collaboration:

1. A sophisticated supply chain function
2. Investment in additional people and enhanced technology to make the collaboration work
3. The trust and willingness to share data openly
4. Mutually developed and shared key performance indicators
5. A shared vision for improvement
6. A plan to sustain the progress

Successfully Collaborating with International Partners

> "Win-win collaboration will cause costs to decline; cash flow to increase; and revenue to grow."

The keys to a successful collaboration described earlier work for local partners, but can the same be said for the global marketplace? There are many more barriers to a global collaboration relationship. The dimensions of distance, time zones, language, and culture conspire to make collaboration exponentially more difficult. Language and culture are even tougher challenges than distance. Here is where technology and electronic communication really pay off. Technology linkages are culture-neutral and time zone-agnostic, and can overcome, to a significant extent, such barriers as language, culture, and time zone.

There are three steps to building a global external collaboration plan to support a supply chain excellence strategy:

1. Embrace the challenge of global collaboration;
2. Budget the appropriate resources with the assumption that it will take twice the resources of a domestic implementation; and,
3. Use technology to help overcome these barriers.

Using Collaboration Technology to Transform Your Supply Chain

Technology is advancing rapidly in today's world from drones to advanced robotics to 3D printing. Technology to enable B2B integration may not be so visible, but it can have a much greater immediate impact on the bottom line. There are a number of technology solutions to enable collaboration in the supply chain. Examples are listed below.

Commercially Available Products to Enable B2B Integration Include:

- Machine to Machine Integration:
  - Electronic Data Interchange (X12-EDI) and Extensible Markup Language (XML) are standardized formats used for electronic interchange of business information. They are processes that allow one company to send information to another company

electronically rather than with paper. Do-it-yourself translators or third-party managed service intermediaries can be configured to connect any two companies no matter how dissimilar (e.g., a hard goods manufacturer and a bank) or what ERPs they use. (See Appendix for more on EDI.);

  – Collaboration software: Software to process transactions between companies, including such activities as orders, shipments/tracking, and fulfillment;
  – Cloud-based applications: These web-based applications run on third-party server banks;

- Machine to Human:
  – Control towers and dashboards display data in a one-way, browser-friendly manner;
  – Event management capability: To send alerts when a supply chain event needs quick attention (e.g., a container is still in customs well past the expected time); and,
- Human to Machine:
  – Web-based EDI platforms. For example, a small contractor with an open work order is asked to submit the number of hours worked into a web form which is then fully automated to process the information for payment.

> Managing exceptions can be overwhelming, labor-intensive and error prone. Event management software can send alerts when a supply chain event needs quick attention. ”

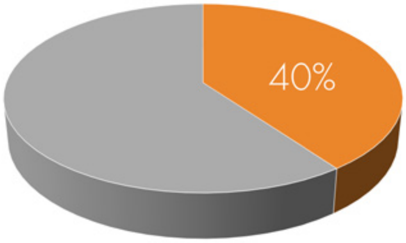
B2Bi Tools Often Reside on the Cloud

The concept of using cloud-based systems is in its infancy, but growing in acceptance and many of the respondents of this study are using cloud-based B2Bi solutions. A recent survey suggested that 64% of distribution centers (DCs) have a warehouse management system (WMS), but only 8% are cloud-based. The advantages of a cloud-based system are numerous:

- Lower implementation cost;
- No hardware to buy;
- Faster time to payback;
- Portability of facility moves; and,
- Automatic upgrades.

Nothing is perfect. The average company needs to consider some of the challenges of cloud-based systems:

- Security of the information concerns some, but actually an in-house system may be less secure;
- Response time or Internet downtime is sometimes a worry with a cloud-based system. This is a reasonable concern that can be addressed in the service level agreements (SLA) with the third party; and,
- Some executives worry that cloud-based systems can be extremely difficult to customize and interface with other systems. But others note that IT departments are so resource-starved that customization projects are rarely done in a timely manner, if at all. Cloud-based systems avoid the internal cost of maintaining and upgrading in-house applications.



More than 40% of those surveyed experienced improved efficiency in onboarding new trading partners when using B2Bi Managed Services.

What are the Benefits of B2Bi for the Supplier?

Cloud-based systems definitely make sense for small companies who don't have the resources to deploy an in-house system. But they also are a smart choice for larger organizations, and organizations that want a standardized system for multiple sites. There is a growing trend to use cloud-based applications managed by a third party.

Suppliers reap additional benefits from B2Bi, Business-to-business integration, beyond simply ensuring compliance with their customer's demands. There is a long list of benefits to suppliers using cloud-based B2Bi tools:

- Compliance: Companies are often required to communicate with their customers electronically. Leveraging B2Bi enables suppliers to accommodate various electronic communication programs;

- Cash flow: Suppliers get paid faster with electronic invoices and electronic funds transfer (EFT). Tools are available that provide visibility as to when the invoice is expected to be paid, and when it is actually paid. "Cash is king," and cash flow is critical for all companies. It's a matter of survival for smaller companies. In addition to visibility of invoice payment dates, the supplier can receive electronic orders faster, process and ship product faster, and therefore get paid faster. The improved delivery times might give the supplier an argument for better payment terms with its customer. (With faster delivery, the customer can lower its inventory and more than offset the cash flow impact resulting from faster payment.);

- Efficiency and accuracy: The supplier can avoid outbound phone calls to check on the status of the invoice, and the supplier can avoid inbound phone calls to check on the status of an order. Electronic transmission also means less human error in order processing and fulfillment. It is very expensive to process paper documents;

> Tools are available that provide visibility as to when the invoice is expected to be paid, and when it is actually paid. "Cash is king," and cash flow is critical for all companies.

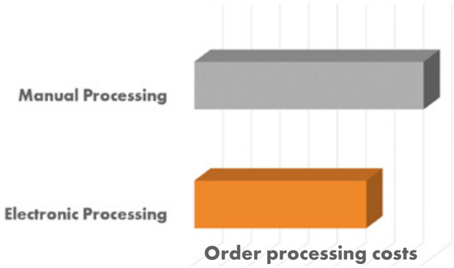
- Speed: Electronic receipt of an order speeds fulfillment process, resulting in cost reduction, inventory reduction, and customer service improvements. In addition, when establishing a new business relationship with a customer, the faster the supplier can get the EDI connection up and running, the faster it will realize revenue; and,

- New business: The supplier should be able to take advantage of new business programs introduced by their customers. Some examples of this:
  - A supplier to a hardware retailer needed to be able to react to a new scan-based trading program introduced by their retail customer. They were required to receive the scan-based point of sale (POS) data, and react with shipments to replenish. The POS data were transmitted via EDI; and,

– An organization in the hard goods industry introduced a blanket purchase order (BPO) process eliminating standard purchase order (POs) using predetermined negotiated rates with specific delivery dates.

According to our survey of over 200 professionals:

- Suppliers reported that the cost of processing an order electronically is nearly 25% less expensive than receiving the order via email, fax, or the phone;
- Suppliers reported significant benefits from being able to send invoices electronically, indicating that it sped up nearly 4.5 days of cashflow;
- Companies in the survey reported on average that 38% of their revenue had been recorded via electronic purchase orders; and,
- While companies have expressed great savings and advantages of doing EDI with their trading partners, it was clear that many struggle with flawless business processes, given that two-thirds of the respondents reported that they had been impacted by a chargeback or deduction due to non-compliance.



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What are the Benefits of B2Bi to the Customer?

Customers realize a long list of benefits due to integrating electronically with their suppliers using technology, including:

- Speed: Electronic integration speeds up the supply chain. This means that an organization can respond to demand changes more quickly. They can reduce stock-outs while at the same time reducing inventory;
- Order management and invoicing efficiency: Organizations can eliminate standard purchase orders (POs) and use blanket purchase orders which can streamline replenishment. They also can see product catalogs and alerts from their suppliers about changes in

the product line. This avoids the inefficiency of ordering obsolete products and dealing with delays of finding a replacement product. Ordering discontinued products is a major problem in all industries, and a massive one in the apparel/fashion industry.

The customer can avoid taking inbound calls to check on the status of the invoice, and can avoid making outbound calls to check on the status of an order. They can access automatic order confirmations from the supplier, process and pay invoices more efficiently, and enjoy enhanced tracking and tracing capabilities which are mandatory in some industries like healthcare. Finally, they can streamline or automate invoicing;

> Customers that have integrated EDI into their operations are reducing the expenses associated with processing a PO by nearly 20%.

- DC efficiency: Organizations can create a standardized process for receiving product into their distribution centers (DCs). They don't have to deal with a different process for each supplier. Managing exceptions can be overwhelming, labor intensive, and error prone. Organizations can fully utilize the features of the warehouse management system (WMS) using advance ship notice (ASN) information to receive and put away product. This can also facilitate cross-docking;
- Product availability improvements: The organization can see and react to backorders faster, resulting in better availability. One retailer that managed its own inbound (freight collect) told us that a load sat on one of their supplier's docks for two weeks because of lack of electronic visibility; and,
- Supplier management: The organization can provide reporting data to suppliers through web portals. This visibility can include critical metrics such as on-time delivery statistics, damage, and order lead-time.

50%

Reported that B2Bi managed services helped them better execute projects.

According to our survey of over 200 professionals:

- Customers that have integrated EDI into their operations are reducing the expenses associated with processing a PO by nearly 20%; and
- Clearly there is more opportunity for productivity, as evidenced by the fact that only 22% of the organizations have implemented the usage of an ASN.

What are the Benefits of Using a Third Party to Implement and Manage Your B2Bi Program?

Rather than attempt to do this in-house many organizations use a third-party organization to implement and manage their business-to-business integration (B2Bi) program. They do this for many reasons including:

- Faster implementation: EDI implementations can be done much faster, leveraging the benefits of a company that focuses exclusively on B2Bi. Therefore, business benefits can be realized faster. People underestimate the effort to put in place a collaboration platform. It generally takes 2-3 times the effort initially estimated if done internally. It's one thing to connect with a couple partners, but scaling it to many partners increases complexity exponentially;
- People: Using a third party allows the organization to leverage the third party's highly experienced talent in this area. Retaining internal B2Bi experts within the organization is becoming increasingly difficult and expensive. Emerging standards, transactions, and business processes often require incremental investment in new skills. Global cloud-based B2B connections are complicated;
- Problem resolution: The third party can actually work on problems around the clock with teams in each region. One region can pass to another around the clock;

> It generally takes 2-3 times the effort initially estimated if done internally. It's one thing to connect with a couple partners, but scaling it to many partners increases complexity exponentially. "

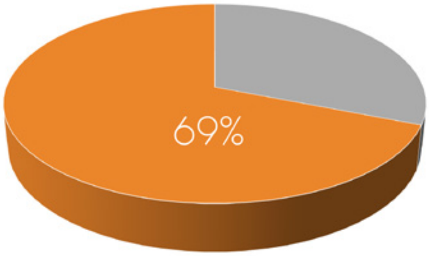
- Best practices: The third party should understand best practices and can apply them in your organization. You don't have to reinvent the wheel;
- Maintenance/upgrades: With a third party that provides a cloud platform, the organization doesn't have to manage or invest in the hardware or software upgrades;
- Resource allocation: Using a third party avoids having to expend valuable internal resources, saving them for other high priority initiatives; and,
- Global expansion: The third party has international skills and expertise. Navigating the regional data protocols used around the globe is often well beyond local IT expertise.

According to our survey of over 200 professionals:

- Over 30% of the organizations surveyed are already using B2Bi managed services for some or all of their technology-enabled connections with their trading partners. These organizations have been using B2Bi managed services for an average of four years;
- About half of the respondents moved to B2Bi managed services in order to comply with a customer's request. The other half needed to address infrastructure limitations and upgrade their capabilities. Although the focus in most cases was on their customers, over 20% also wanted a more efficient connection with their suppliers;
- About one-half of the respondents moving to B2Bi managed services were able to free up existing IT staff for other productive activities. And 44% said that they were able to improve IT services to the company in general once they outsourced the burden of electronic connectivity with trading partners;
- Nearly 30% of the respondents saw the predictability of their costs improve significantly with B2Bi managed services;
- 94% of those surveyed saw a significant improvement in their electronic connectivity capabilities when they went to B2Bi managed services;

44%

Said that they were able to improve IT services to the company in general once they outsourced the burden of electronic connectivity with trading partners.



69% of those surveyed said that they were able to more efficiently respond to changes in their customer's requirements when using B2Bi Managed Services.

- With the improved electronic capability brought about by B2Bi managed services, 88% of those surveyed said their cost went down or stayed the same;
- 68% indicated that with B2Bi managed services their customers reported that they are easier to do business with, and 69% said that they were able to respond to changes in their customer's requirements more efficiently;
- Over 40% experienced improved efficiency in onboarding new trading partners with B2Bi managed services;
- Almost 50% reported that B2Bi managed services helped them better execute projects to improve their supply chain; and,
- 38% of those using B2Bi managed services agree that their global business has especially benefited.

Best Practices for Selecting a Third Party to Manage Your B2Bi Program

When selecting a third party to manage your electronic transactions, there are a number of things you should keep in mind. The list below can serve as a checklist as you go through that process.

1. Identify and document your needs, as well as the largest problems you face in this area or could face in the future. Failure to think through and document your needs is probably the greatest problem in the selection process. Of course a third party can help you do that.
2. Develop a request for information (RFI) for two or more third parties and ask them to document their capabilities such as:
   - Do they have sufficient infrastructure, and can they scale to your future size?
   - Do they have a robust disaster recovery capability?
   - Can they assure security of your transactional data? Do they have advanced encryption-based security capabilities?
   - Do they have proven experience to interact with any level of sophistication?

30%

Over 30% of the organizations surveyed are already using B2Bi Managed Services for some or all of their technology-enabled connections with their trading partners.

- For example, can they take data from a customer, convert to a web-based preview so it can be read and processed by a human at the supplier's location, and then be transmitted back to the customer in the format required by the customer? The third party serves as translator and ensures compliance, no matter what it takes, appearing seamless to both partner organizations.
- The third party also needs to be able to deal with trading partners that only use spreadsheets or paper to extract a customer's ERP data, translate it to a readable form, and then fax it to a supplier. The supplier would fax back the necessary information to the third party for processing. The third party would then send back the document in the correct format to the customer's ERP.
- Do they have proven experience with disparate ERPs?
- Do they have the ability to monitor transactions and customize business rules, such as compliance related to time sensitive information?
- Does the third party understand the various global standards for data transmission/communication?
- Does the third party have experience with your industry vertical, and the associated standards and business processes that are required?
- Can they send alerts when something falls outside of a specification?
- Will the third party provide tools to help manage and diagnose problems quickly?
- Does the third party have proven ability (based on references) to quickly solve any problems?

3. After reviewing all of the RFI responses, you will hopefully be able to narrow the choice to the two strongest candidates. At this point you will want to follow a formal selection process with the following steps:
   - Check the basics:
     – Is the candidate financially stable?
     – Do they show a track record of being able to retain the key B2Bi resources that you will need on your project?
     – What do the references say about the third party?

– Request a formal proposal from each candidate;
– Hold an information sharing meeting; and,
– Make the selection.

One last point to keep in mind when planning to select a third party is that it's critically important to think carefully about managing change in your organization. There are politics in everything. If you have an internal EDI team then there could be resistance. You will need an extensive change management communication plan.

What are the Best Practices for Managing the Third Party?

Based on input from a wide range of sources, below is the advice you need for managing your third-party B2B integration provider.

> Negotiate service level agreements. Establish expectations and standards around system availability, support levels, security, and maintaining supply chain continuity.

- Internal risk assessment: Understand the risks, vulnerabilities, controls, and potential impacts to your organization with your current internal EDI group, and establish the key areas in which technological or process improvements are required. Use these service level expectations when negotiating a service level agreement with the third-party provider;
- Service level agreements: Negotiate service level agreements (SLAs) which improve upon the service levels provided by the current internal EDI group. Establish expectations and standards around system availability, support levels, security, and maintaining supply chain continuity. The agreement should provide a suitable remedy in the event the third part provider fails to meet the service level thresholds; and,
- Implementation methodology: Set performance metrics and deadlines for pre-production and post-production planning. Address any differences in support levels or processes through each stage of the implementation life cycle – during implementation (pre-production), post-implementation support, maintenance/warranty, etc.

FUTURE TRENDS

Future Trends in Business-to-Business Integration (B2Bi)

The people whom we interviewed identified a number of future trends related to B2Bi and Managed Services:

- Outsourcing growth: Core business functions that are mission-critical but do not create a competitive advantage lend themselves to outsourcing. For years payroll was managed in-house; now few do payroll that way. Likewise, there will be more and more outsourcing of B2Bi functions;
- Global: Global business is expanding. The world is "flat" and you will need partners who can help you navigate that complexity;
- Complex data: There are more and more business rules being combined with basic EDI transactions such as packaging or shipping rules, and these will need to be accommodated;
- Omni-channel: Retail is changing. Consumers are moving from brick and mortar stores to online stores. The flow of transactions and merchandise is now different and speed is essential. Being able to integrate transactions in this virtual world is essential to ship products and collect payment;
- Uber revolution: The fundamental principal of the transportation network company Uber is the efficient allocation of excess capacity. Cloud computing is a similar idea, and will continue to grow;
- The Cloud: The concept of using your own servers is becoming more antiquated; and,
- Big data: Supply chains generate a huge amount of data, with all of the connections among business partners. A sophisticated data analytics capability will be essential, including the ability to forecast problems before they happen.

CONCLUSION

Conclusion: Advice for You, and Next Steps

The evidence is very clear: you'll have to collaborate with your business partners if you want to survive and thrive in the coming decade. Both you and your trading partners need to work in concert to win in a competitive global environment where other companies are forming keiretsu-like relationships (the Japanese system of companies with interlocking business relationships and shareholdings). Going it alone is not an option.

One EVP of supply chain for a major retailer said, "We need to become the best customer for our suppliers. Only by doing that will we have the tools to compete against the big players in our industry." Walmart founder Sam Walton collaborated with his major suppliers in the late 1980s and early '90s to best Kmart. Many forget that Kmart was larger than Walmart prior to 1991, and many were betting that Kmart would win. But Kmart went on to bankruptcy before it combined with Sears, and Walmart grew to become the largest company in the world.

Meanwhile, Amazon.com has become the number one online retailer in the world with net sales up 20 percent in 2015 to $107 billion. Amazon boasts the largest selection and number of online products due, in large part, to its online fulfillment network and the digital integration of its supplier network.

Collaboration with your business partners requires many things. But as we have shown in this study, technology plays a major role, a role that will only grow larger in the future.

CONCLUSION

We recommend that you develop a strategy for business-to-business integration; and offer the following seven steps as a guideline:

7 Steps for Business-to-Business Integration

1. Consider the current and future supply chain needs of your suppliers and customers.
2. Evaluate your internal capabilities in this area.
3. Consider the major industries and global trends that you will face in the next 5-10 years.
4. Understand the current tools available for business-to-business integration (B2Bi).
5. Evaluate what your competitors are doing in this area.
6. Conduct an internal risk assessment.
7. After gathering all of this information, lay out a multi-year road map for B2Bi for your organization.

Remember, your best today will not be good enough tomorrow. Don't let the rate of external change exceed the rate of internal change in your company. Get started today on this challenging, and rewarding journey.

How Well Are You Using Technology to Collaborate with Your Suppliers and Customers?

Please rate each item on a 1-5 scale, where 5 is world-class	**Rating 1-5**
Collaboration strategy	
1. How well do you feel you are collaborating with your customers in a win/win manner?	
2. How well do you think you are collaborating with your suppliers in a win/win manner?	
3. Have you quantified the benefits of collaboration?	
Business Integration Tools	
4. Do you have a good EDI process and system to communicate with your business partners?	
5. Do you have good web portals to communicate with your business partners?	
6. Do you use control towers/dashboards to provide visibility at each stage of the supply chain?	
7. Do you have an event management capability to provide alerts when attention is needed in your supply chain?	
8. Do you take advantage of cloud-based applications for the appropriate applications?	
Benefits of B2Bi (Business-to-Business Integration)	
9. Can you quantify the efficiency and accuracy improvements from using B2Bi?	
10. Can you quantify the cash flow improvements?	
11. Can you quantify the speed improvements in your supply chain?	
12. Is the capability helping your organization acquire new business, and improve product availability?	
Benefits of a Third Party for doing B2Bi (Business-to-Business Integration)	
13. Can you quantify the benefits in areas of third party assistance in areas such as: implementation speed, resources, maintenance, upgrades, global business, etc.?	
14. Do you have a partner who thoroughly understands the global issues surrounding B2Bi communication?	

Selecting a Third Party for B2Bi (Business-to-Business Integration)	
15. Have you done a complete needs assessment for your B2Bi communications?	
16. Do you understand what is needed for an RFI if you elect to hire a third party for B2Bi? (Note: There were 13 examples in this white paper.)	
Managing a Third Party for B2Bi (Business-to-Business Integration)	
17. Do you have precisely defined service level agreements? (SLAs)?	
18. Do you have a rigorous, documented problem resolution process in place?	
Future Trends	
19. Have you defined your assumptions for business trends in the global business environment, and the impact of such developments as the omni-channel?	
20. Do you have a plan to deal with the mass of information in the future world of big data/analytics?	
Total Points	

How did you do?

- **0–100 points:** Your B2Bi process is deficient. You should benchmark best-in-class operations and develop a multi-year plan to upgrade your operation.
- **100–150 points:** You have an average B2Bi operation. You have a solid position to build on. You now need a multi-year plan to improve it.
- **150–180 points:** You have a good-to-excellent B2Bi operation. Build on your many strengths, but also honestly assess and address your weaknesses.
- **180-200 points:** You have an outstanding, nearly world-class operation. Make sure you keep it that way. Everyone is raising the bar every day. Keep challenging yourself to remain at the top.

APPENDIX

Appendix A: Electronic Data Interchange

Electronic data interchange (EDI) is the electronic interchange of business information using a standardized format. It is a process that allows one company to send information to another company electronically rather than with paper. By moving from a paper-based exchange of business documents to one that is electronic, companies enjoy major benefits such as reduced cost, increased processing speed, reduced errors and improved relationships with business partners. EDI documents flow straight through to the appropriate application on the receiver's computer and processing can begin immediately.

There are many documents that are typically exchanged between businesses. The most common are purchase orders, invoices, advance ship notices, bills of lading, customs documents, inventory documents, shipping status documents, and payment documents.

There are several EDI standards in use today, and for each standard, there are many different versions. Businesses, often with the help of a third party, typically use an EDI translator to translate the EDI format so the data can be used by their internal applications and thus enable straight-through processing of documents.

Endnotes

Voluntary Inter-Industry Commerce Solution, "Implementing Successful Large Scale CPFR Programs and Onboarding Trading Partners Business Process Guide", Version 1.0, August 2007. VICS.org.

Fleck, Thomas, "Supplier Collaboration in Action at IBM", Supply Chain Management Review, March, 2008.

V.I.C.S. is an industry association consisting of over two hundred companies devoted to improving efficiency and effectiveness of the supply chain.

About Dr. Paul Dittmann

Paul Dittmann is Executive Director of The Global Supply Chain Institute at the University of Tennessee. In addition, he teaches supply chain courses in the business school, and lectures in the executive education programs.

Dr. Dittmann comes to the University of Tennessee after a thirty two year career in industry. He has held Fortune 150 positions, such as Vice President, Logistics for North America, Vice President Global Logistics Systems, and most recently served as Vice President, Supply Chain Strategy, Projects, and Systems for the Whirlpool Corporation.

Dr. Dittmann also manages many of the special projects done for companies including the supply chain audits. In managing the audits, and other projects, he has consulted or done executive education for numerous organizations such as Walgreens, Walmart, Boise, Tyco, Inmar, Honeywell, Genuine Parts, Cintas, Cummins, Cooper Tire, United Smokeless Tobacco, Rhodia, Radio Systems Corp., Johnson & Johnson, Estee Lauder, The United States Army, The Marine Corps, Michelin, Brunswick, Nissan, Lockheed Martin, Race Trac Petroleum, GAF Corporation, Edison Schools, OfficeMax, Sony, Keller Group, GlaxoSmithKline, Cooper Tire, Lowes, Navistar, GAF Corporation, Fiskars, Edison Schools, United States Air Force, F.E. Myers, General Signal, National City Corporation, and Grupo Cysda.

He also has taught numerous public seminars in the areas of lean manufacturing, global business, and supply chain excellence, and has spoken at many conferences on these and other topics.